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1

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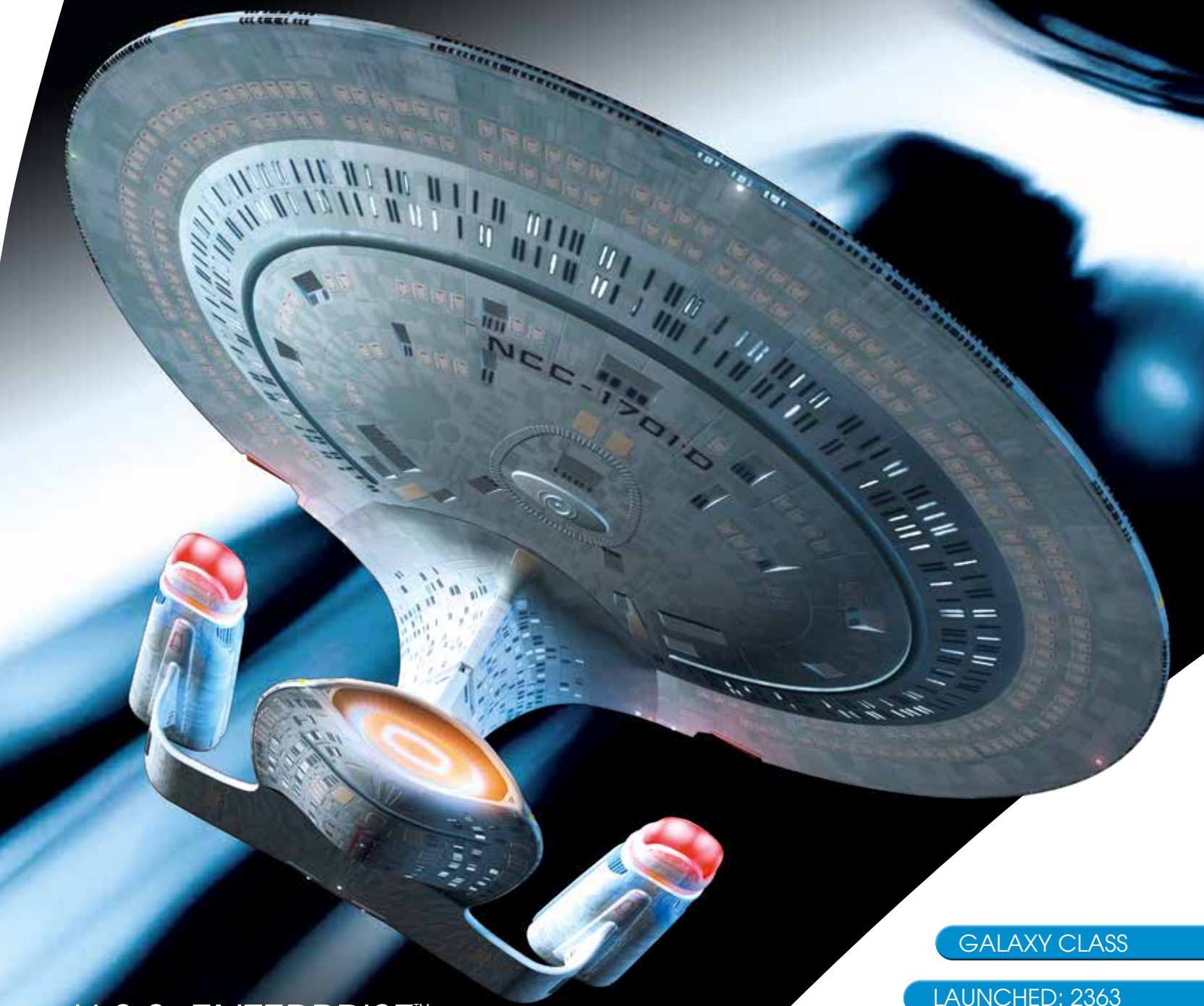

U.S.S. ENTERPRISE™

NCC-1701-D

GALAXY CLASS

LAUNCHED: 2363

LENGTH: 641 METRES

NUMBER OF DECKS: 42

U.S.S. ENTERPRISE NCC-1701-D

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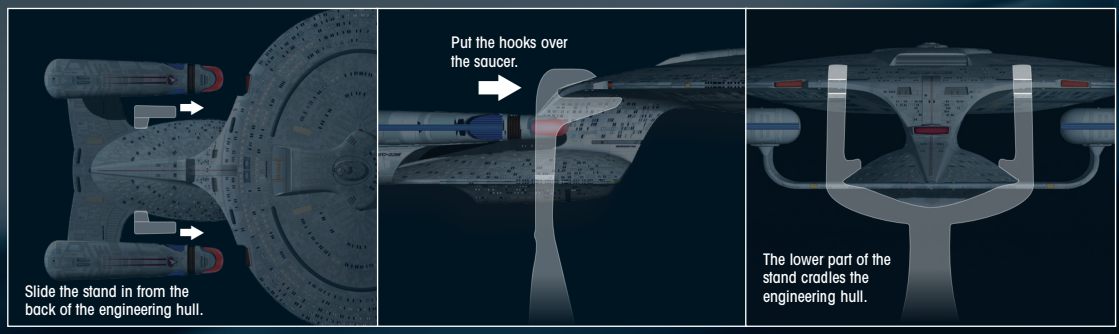

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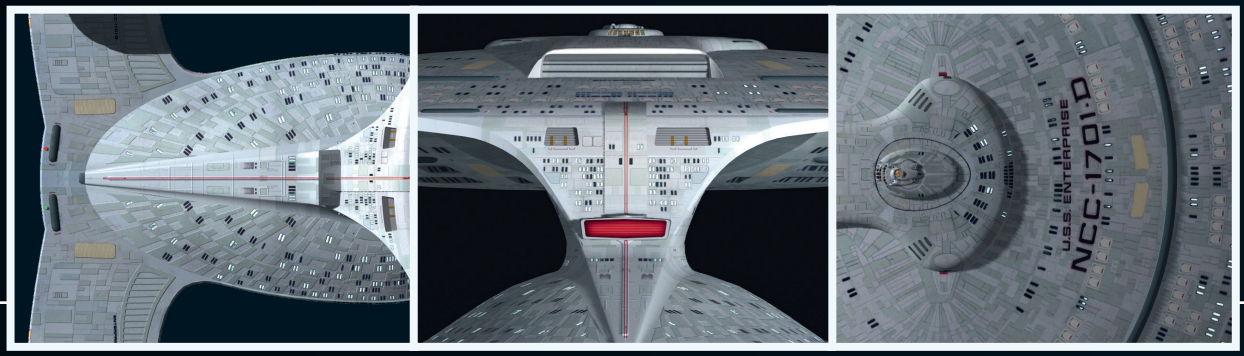
U.S.S. ENTERPRISE NCC-1701-D

SPECIFICATION

REGISTRY:	NCC-1701-D
CLASS:	GALAXY CLASS
CONSTRUCTED:	UTOPIA PLANITIA FLEET YARDS
LAUNCHED:	2363
DESTROYED:	2371
LENGTH:	641 METERS
DECKS:	42
CREW:	1,012
TOP SPEED:	WARP 9.6 (SUSTAINED)
WEAPONRY:	12 TYPE X PHASER ARRAYS
	3 PHOTON TORPEDO LAUNCHERS
CAPTAINS:	Jean-Luc Picard, Edward Jellico



▶ The U.S.S. ENTERPRISE NCC-1701-D entered service in 2363 under the command of Starfleet veteran Captain Jean-Luc Picard.

U.S.S. ENTERPRISE NCC-1701-D

The *U.S.S. Enterprise* NCC-1701-D was more than a third of a mile long, and had a crew of over 1,000 people

When the *Galaxy*-class *U.S.S. Enterprise* NCC-1701-D was launched in 2363 – 94 years after Captain Kirk completed his first, legendary five-year mission on the *U.S.S. Enterprise* NCC-1701 – it was the largest, most advanced vessel Starfleet had ever constructed.

The *Enterprise*-D was an awe-inspiring technical achievement that was the result of 20 years of development work from the finest engineering minds of the Federation Advanced Starship Design Bureau, including Dr. Leah Brahms, who was largely responsible for the design of the warp engines.

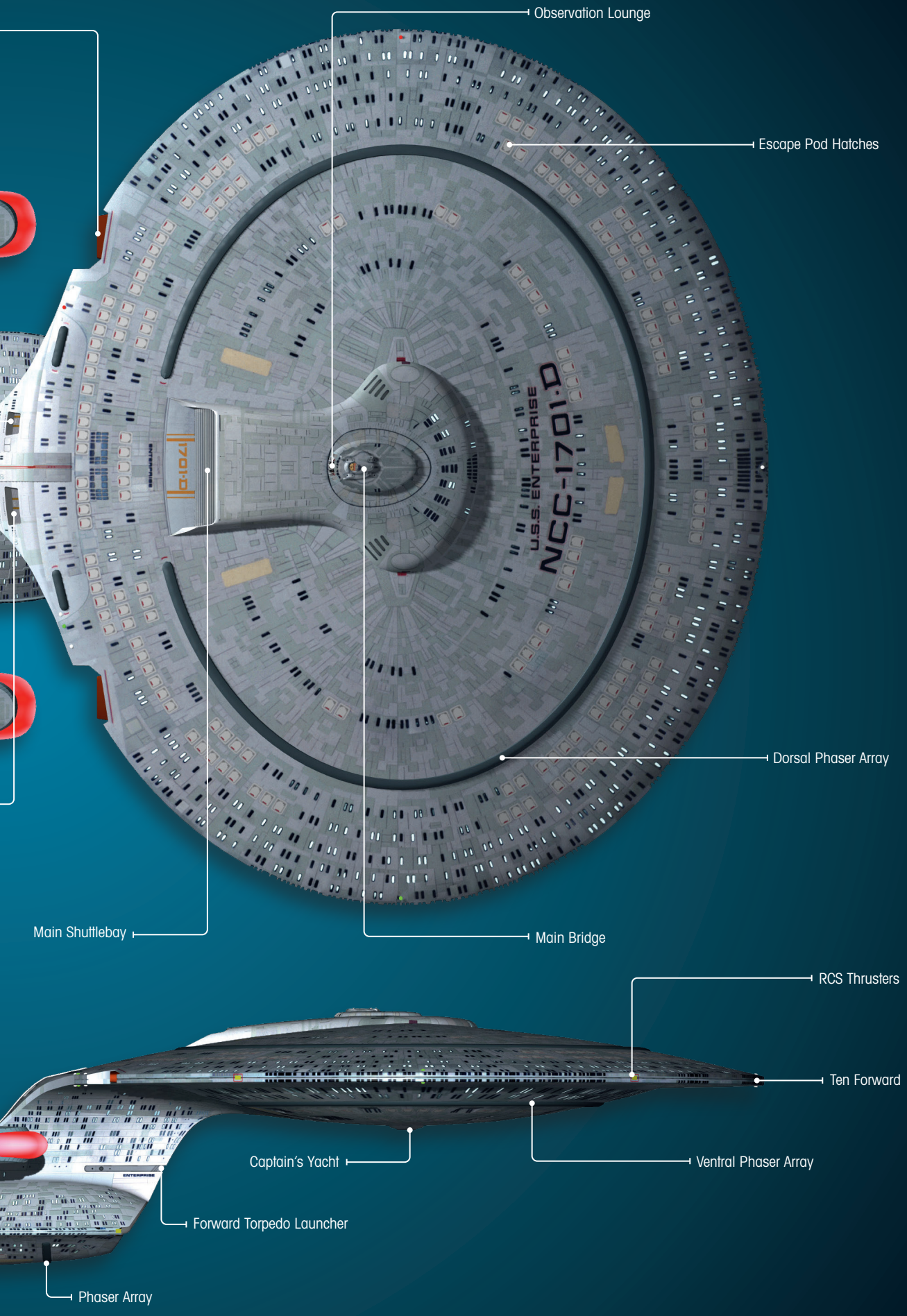
The *Enterprise*-D followed the same basic design layout as previous *Enterprises,* but it was sleeker due to advancements in hyperflight dynamics, and the saucer section was larger in proportion to the secondary or engineering hull. At 641m in length and with 42 decks covering 3.5 million square metres, it had eight times as much interior space as Captain Kirk's *Enterprise.* This meant there was 110m^2 of living space per person.

A SCIENTIFIC MARVEL

The *Enterprise*-D's specifications were mind-boggling: it had more than 4,000 internal systems, including two LF-41 warp engines that gave it a top sustainable speed of warp 9.6 (1,909 times the speed of light). It also had a high-capacity shield grid, 12 Type-X phaser arrays, three torpedo launchers and a complement of 250 photon torpedoes.

Facilities on board included three sickbays, 20 transporter systems and more than 100

◀ The outer surface of the ENTERPRISE-D featured phaser strips, transporter emitter pads, subspace radio antennae, active energy forcefields, navigational sensors, escape pod hatches and hundreds of viewports. The outermost hull layer was made up of AGP ablative ceramic fabric segments approximately 3.7m^2 in size.



ESCAPE POD HATCHES

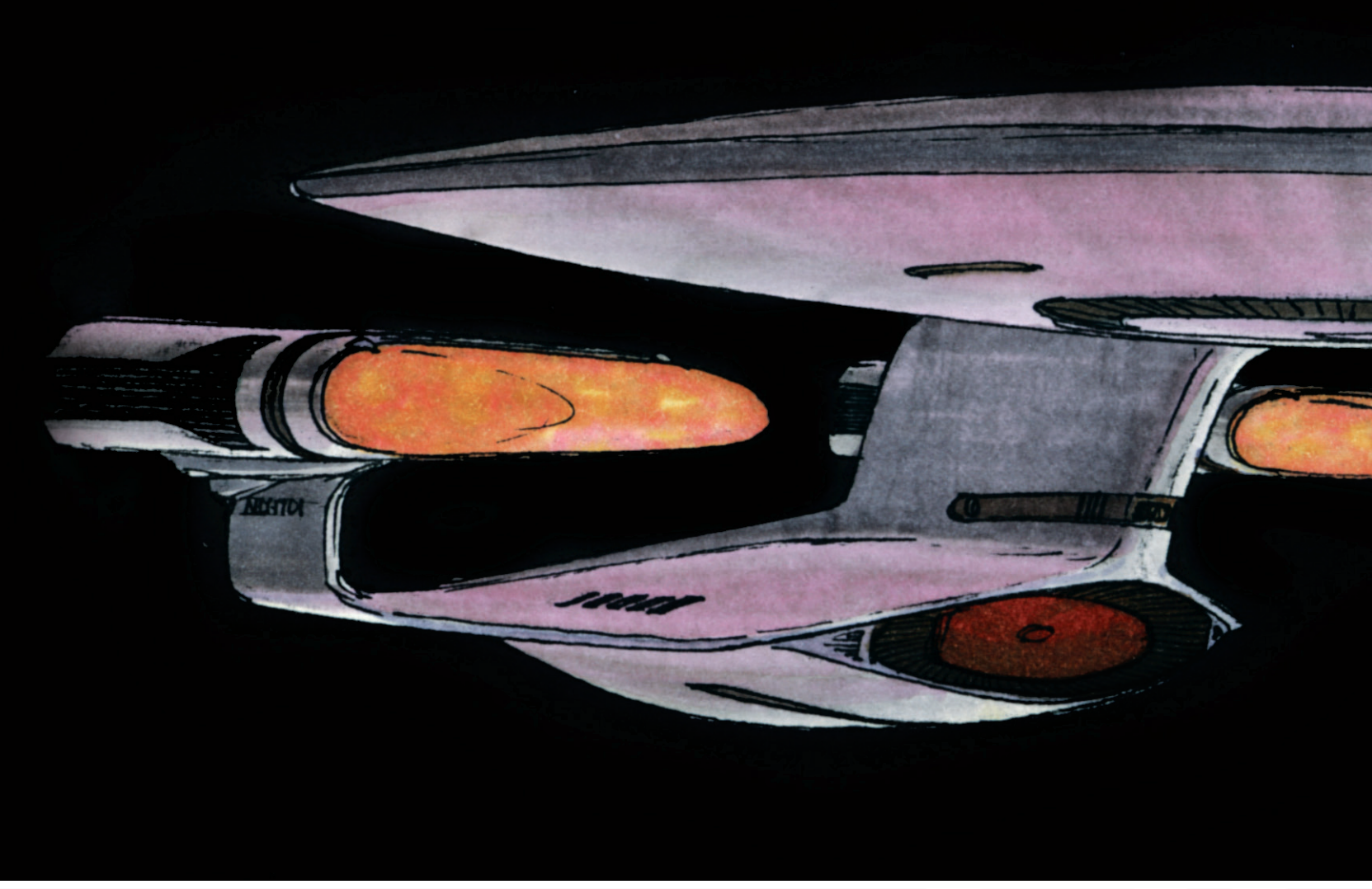
The surface of the hull was marked by 400 escape pod hatches. Starfleet called them 'autonomous survival and recovery vehicles' and each one could sustain four occupants for up to 86 days.

PHASER ARRAY

There were 12 Type-X phaser arrays located at various strategic points on the hull giving full 360-degree cover. The main dorsal array was made up of 200 emitters with each one capable of a 5.1 megawatt burst.

MAIN BRIDGE

Located on Deck 1 at the top of the saucer section, this egg-shaped room was the nerve center of the ENTERPRISE-D and from where all aspects of running the ship and directing its missions were controlled.



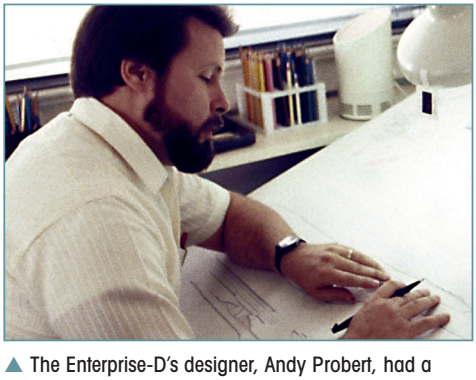
DESIGNING THE ENTERPRISE-D

A new *STAR TREK* series meant a new *Starship Enterprise* and a design that combined the new and the old to create something iconic

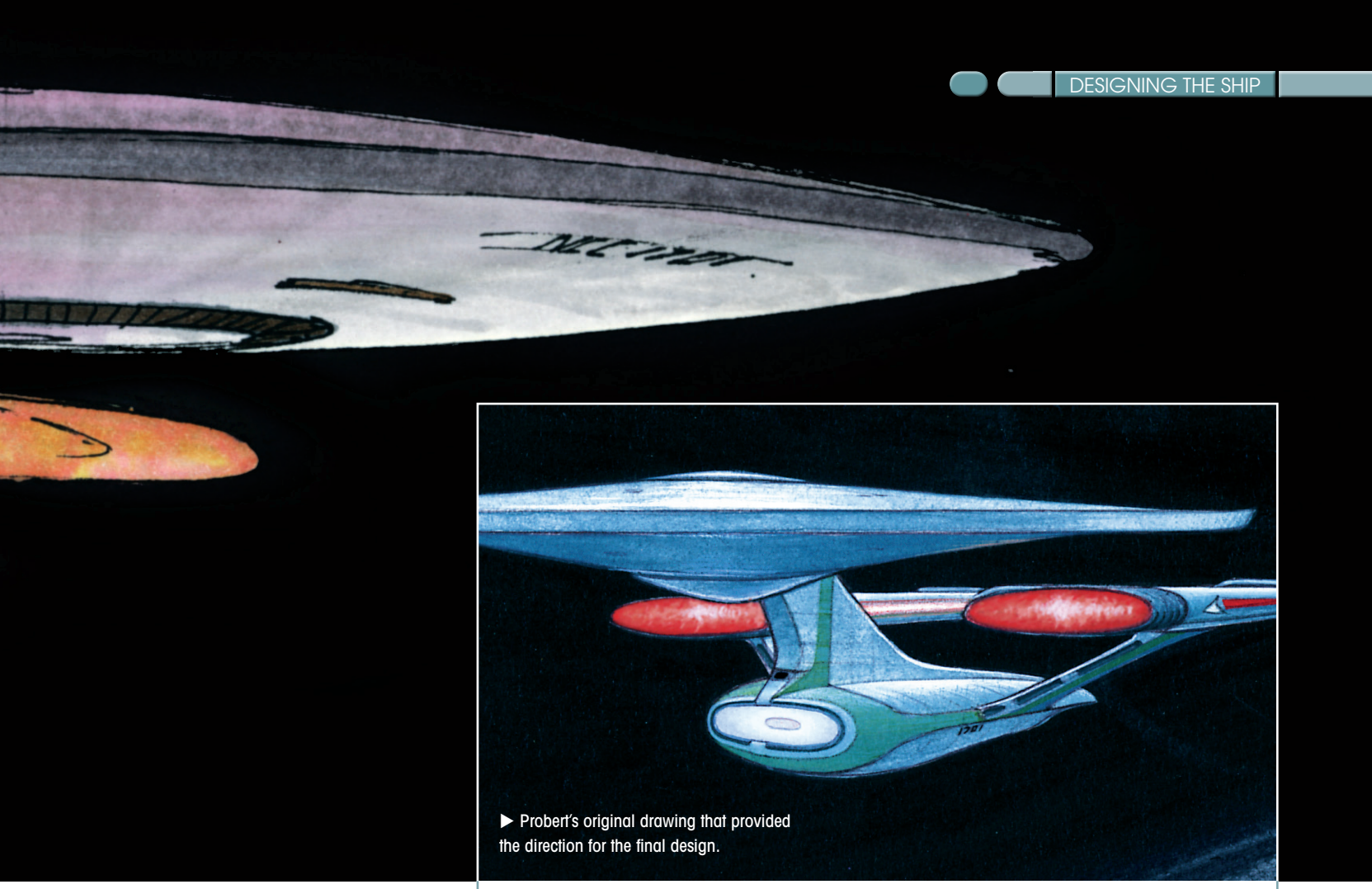
In October 1986 it was officially announced that a new *STAR TREK* series would be hitting TV screens in September 1987. Among the huge challenges *STAR TREK* creator Gene Roddenberry faced in making the new series was the 'simple' problem of updating the technology and in particular the *Starship Enterprise*. The original ship was seen as a character that was just as important to the show as Kirk, Spock and McCoy, so it was vital that the design of the ship was right.

With this in mind, one of the first people Gene Roddenberry hired to work on the new show was concept designer Andrew Probert, who had previously worked on *STAR TREK: THE MOTION PICTURE* as a concept designer/illustrator.

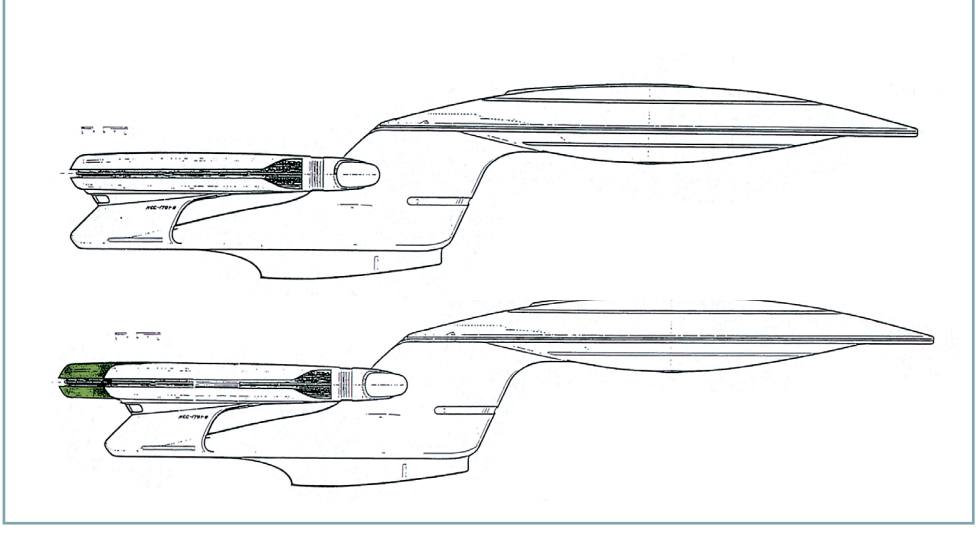
The first item Probert turned his mind to designing was the Main Bridge as this would be the most-filmed area aboard the ship. He knew that the interior had



▲ The Enterprise-D's designer, Andy Probert, had a huge influence on the look of STAR TREK: THE NEXT GENERATION.



▶ Probert's original drawing that provided the direction for the final design.



▶ The only major changes made to Andy Probert's design involved lengthening the nacelles to give them proportions that were more like those of the original ENTERPRISE.

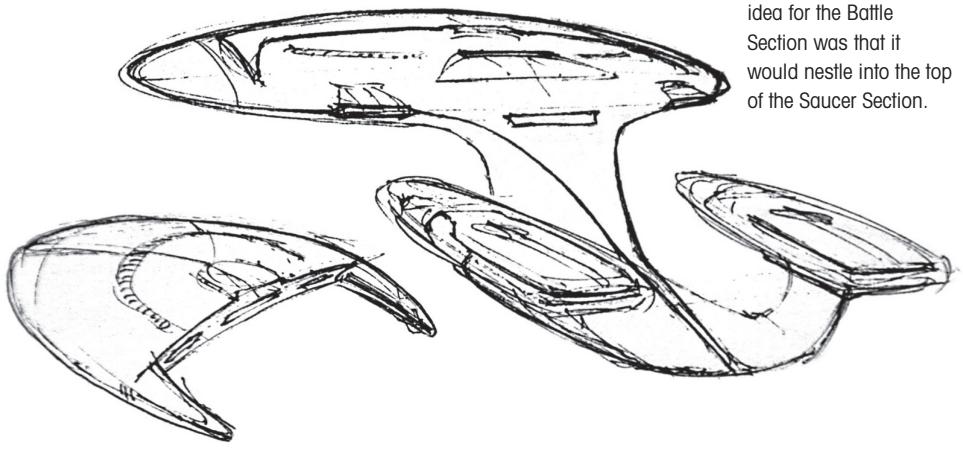
to match the exterior of the ship, so he pinned up some sketches he had already made of what the *Enterprise* might look like for inspiration. These illustrations were based on an earlier painting he had come up with shortly after the first *STAR TREK* movie when, for his own amusement, he thought about what a starship might look like even further into the future.

While Probert was developing his ideas, *STAR TREK* writer and producer David Gerrold stopped by, noticed these design sketches and asked if this was the new *Enterprise.* Probert replied that he had no idea at this stage, but before he knew it, Gerrold had taken the sketch and disappeared. When Gerrold reappeared a short time later, he told Probert that it was indeed going to be the new *Enterprise.*

To say Probert was taken aback at this news would be a massive understatement. "In answer to my astonished look and babbling," says Probert, "Gerrold explained that he took the sketch into a producers' meeting and they all agreed that was to be the new ship. It really sent my head spinning. From that point on, it was a matter of refining the shapes and adding the details."

Probert wanted to create an advanced version of Kirk's ship and hoped to retain the feel of its forebear to assuage the reservations some *STAR TREK* fans had about their beloved original version being "replaced".

As a result, he kept the basic layout of the ship the same, but changed its proportions, making the Saucer Section much larger in relation to the engineering hull. He also kept the warp nacelles at the rear of the ship, but unlike on the original *Enterprise* where they were positioned above the saucer rim, he moved them down to a position between the two hull sections, closer to the ship's centre of mass.



▼ Probert's original idea for the Battle Section was that it would nestle into the top of the Saucer Section.

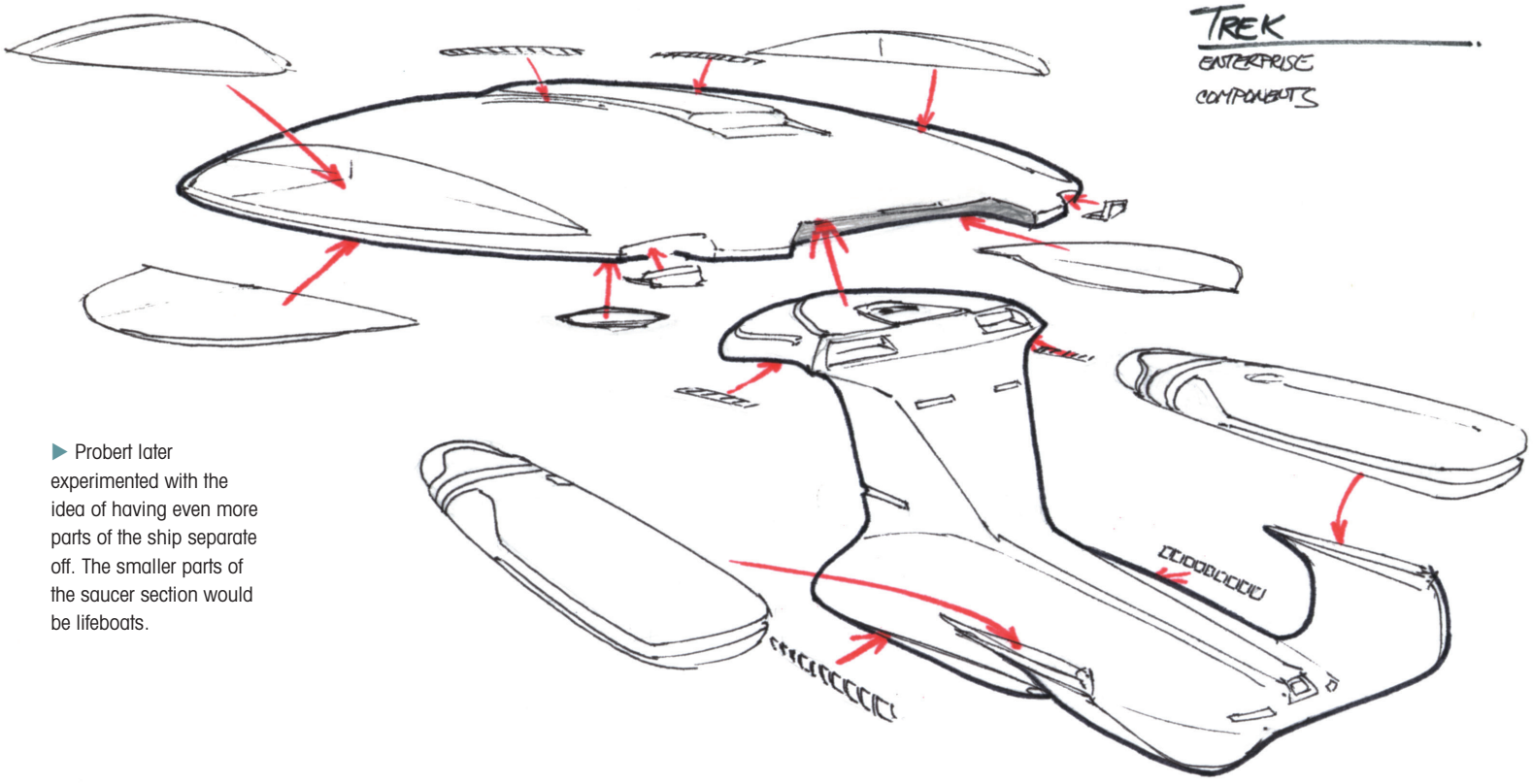
MOVING FORWARD

Another change Probert made was to slant the struts holding the saucer section and warp engines towards the front of the ship. This gave the new *Enterprise* a "feeling of aggressive forward movement, like a lunging cat," as he describes it.

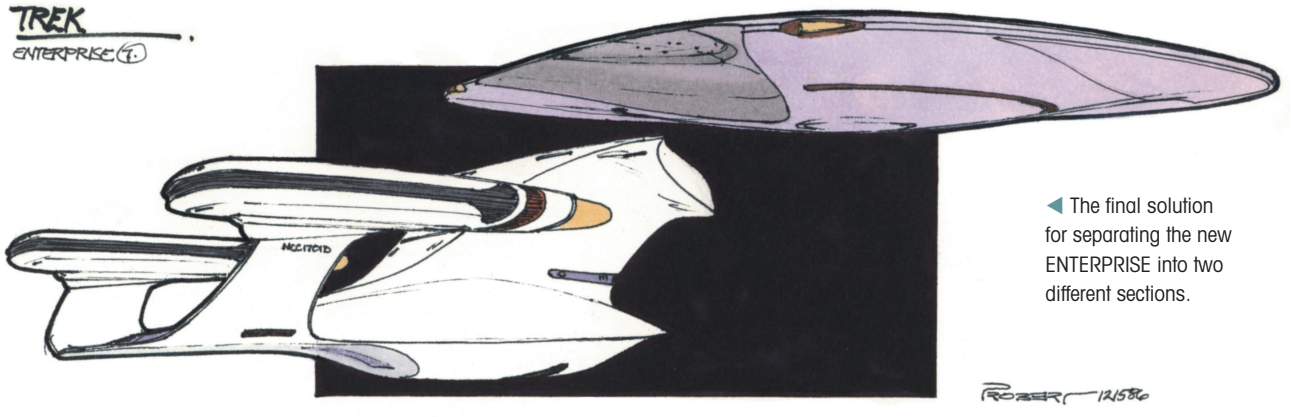
Probert's initial sketch worked so successfully that Gene Roddenberry had only two changes. He wanted the Main Bridge put back on top of the Saucer Section as Probert had moved it somewhere in the middle of the ship (where it would be protected) and for the warp nacelles to be made longer.

The only part of the design that caused any real problems was that it had to separate and that the two sections had to look as good apart as they did together. Probert's initial design did not take this into account, and when he showed the producers how he envisioned this might work, it was not what they wanted. "What I came up with was a shape like the letter D," says Probert. "If you lay that down on top of the saucer with the round part toward the front and then extend the serifs, those would be two warp engines. This thing would be nestled into the top of the saucer and it would separate to go fight the battles."

The producers rejected this solution and asked for the ship to separate between the saucer and the engineering hull. At first Probert could not work out how to make the engineering hull look right as a separate vessel. After playing around with several



▶ Probert later experimented with the idea of having even more parts of the ship separate off. The smaller parts of the saucer section would be lifeboats.



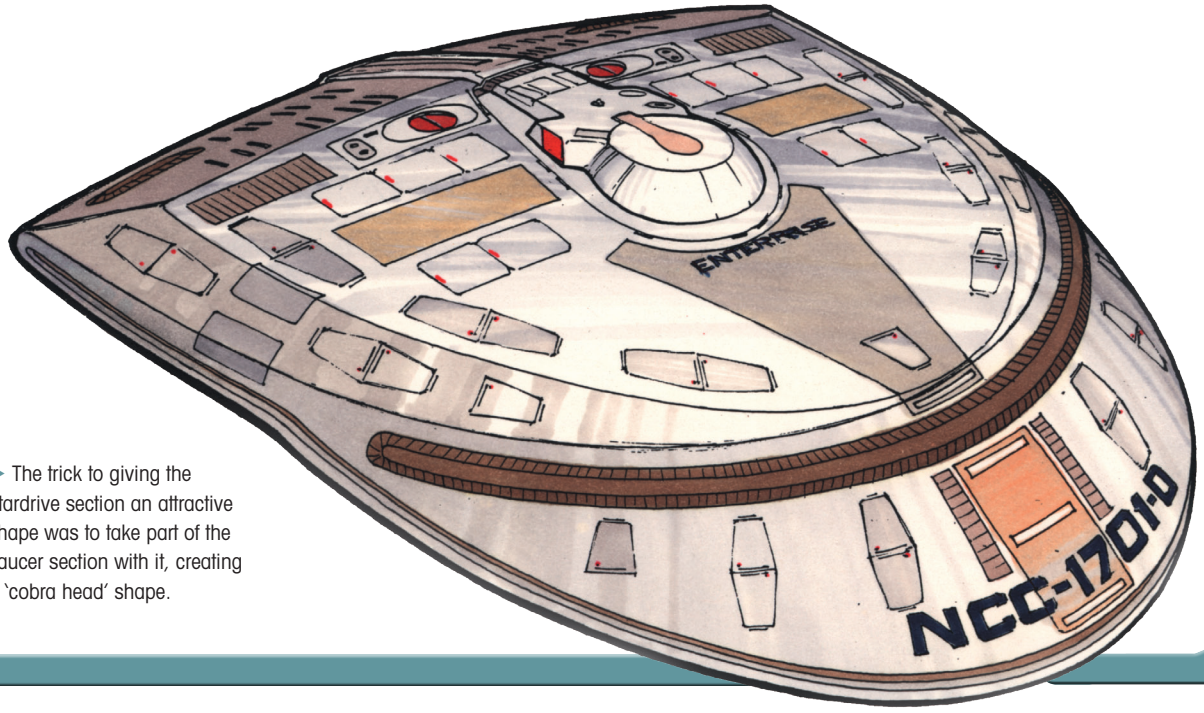
◀ The final solution for separating the new ENTERPRISE into two different sections.

designs, he eventually hit on the idea of leaving part of the Saucer Section on the Stardrive section, which not only acted as a broad mounting point for the saucer, but made the Stardrive section look better.

FINAL DETAILS

Once this part of the design was finalised all Probert had to do was add a few finishing touches. He placed the Captain's Yacht on the underside of the Saucer Section in the same area as what had been the dome-shaped sensor array on Kirk's ship. He also added lots of windows in various shapes and sizes all over the hull, particularly towards the front of the Saucer Section where he reasoned the crew would want to look out and keep in touch with their environment. Probert even added the ship's dedication plaque and various paintings to the walls of some of the interior sets.

One element that Probert meant to design for the *Enterprise*-D, but ended up omitting was landing gear. He had designed four landing pads on the underside of the saucer on the refit *Enterprise* for *STAR TREK: THE MOTION PICTURE*, so it was very much in his mind to do something similar for the *Enterprise*-D. "I started to do the landing gear," says Probert, "but I was distracted away from it and that poor ship eventually paid the price!"



▶ The trick to giving the Stardrive section an attractive shape was to take part of the saucer section with it, creating a 'cobra head' shape.

FILMING THE NCC-1701-D

Putting the *Enterprise*-D on screen has involved not one but three different studio models, and two different CGI versions

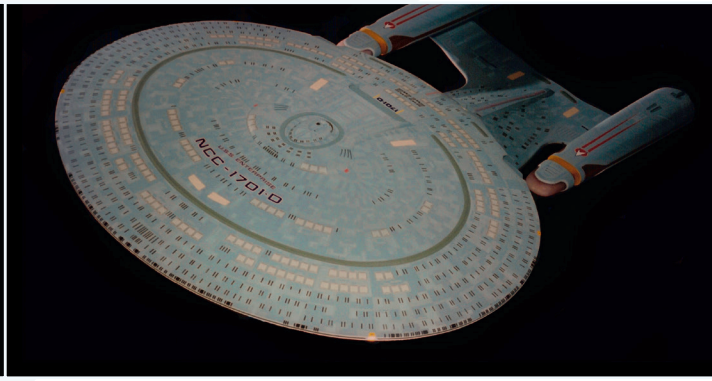
Back in 1987 there was only one realistic way to film a starship – you had to build a physical model. The contract to build the *Enterprise*-D was given to ILM, who made two different versions of the new ship – a six-foot model that would be used for most effects shots and a smaller two-foot model that would be used for the going to warp shots. The team that built the models was led by Greg Jein and Bill George.

Painting the model proved problematic. Andy Probert had designed the ship to have a blue/green tint that was reminiscent of the blue-ish colour created by 1960s VFX techniques. However, this idea created a problem. For VFX techniques to work the ship couldn't be blue so the lighting was adjusted to make the ship more of a pearl grey colour. This is one of the reasons people have had such difficulty establishing the 'correct' colour of the *Enterprise*-D: simply put, the studio model and the version you see on screen are different colours.

The original plan had been to create a handful of VFX shots that could be used again and again, much as they had been on the original *STAR TREK* series. However, *STAR TREK: THE NEXT GENERATION* had taken a new approach to their visual effects by using video technology rather than film. This was much faster and cheaper than had been expected and the producers loved the results. As a result the show was using more effects shots than had been planned. Working with the six-foot model was proving more than tricky. It took six people to lift the model off its mount, and it was so large that the camera couldn't get far enough way to create moving shots. So at the beginning of *TNG*'s third season the producers took the decision to build a more manageable four-foot version of the model. Once again this was built by Greg Jein, who by now had left ILM. If you look closely at the new model you can see that it is subtly different to its predecessor.

When it came to making the movie *STAR TREK GENERATIONS,* it was obvious that the four-foot model wasn't detailed enough to be used for big screen effects, so the original six-foot model was brought out of retirement. By now it was in need of refurbishment and ILM set about stripping it back and giving it a new coat of paint. Once again, the look of the ship changed subtly.

By the next time the *Enterprise*-D appeared on screen the VFX team had abandoned practical models in favour of CG. A basic CG version of a Galaxy-class starship appeared in *STAR TREK: DEEP SPACE NINE.* But for her final appearance, the *Enterprise*-D was given a major makeover. The last episode of *STAR TREK: ENTERPRISE* is actually set on the D, and by now the series was being filmed in HD. This meant that a new CG model had to be built for its final appearance to date.



▲ The original practical model of the U.S.S. ENTERPRISE NCC-1701-D in its original 1987 state (left) and after being refurbished and repainted for its appearance in STAR TREK GENERATIONS (right).

ON SCREEN

FEATURED TV SERIES:	*STAR TREK: THE NEXT GENERATION*
FIRST APPEARANCE:	'Encounter at Farpoint' (TNG)
MOVIE APPEARANCES:	*STAR TREK GENERATIONS*
FINAL APPEARANCE:	'These Are The Voyages' (ENT)
DESIGNED BY:	Andrew Probert

KEY APPEARANCES

'Encounter at Farpoint'

The *U.S.S. Enterprise* NCC-1701-D was introduced in the first episode of *STAR TREK: THE NEXT GENERATION*, which opens with Captain Picard taking a tour of his new ship. At the time, it was the first major new *STAR TREK* ship to appear on television in nearly 20 years. That first *TNG* episode also demonstrated the *Enterprise*-D's ability to separate in two.

'The Best of Both Worlds'

The *Enterprise*-D takes on the Borg in one of the most important battles in the history of *STAR TREK*. Picard has been taken prisoner by the Borg. Riker is left in command of the ship and launches a desperate attack to rescue the captain and save the Earth.

STAR TREK GENERATIONS

The *Enterprise*-D made the transition to the big screen in the first *STAR TREK: THE NEXT GENERATION* movie, when it was destroyed near Veridian III. In the next movie it was replaced with the *U.S.S. Enterprise* NCC-1701-E.

TRIVIA

GALAXY-class starships like the ENTERPRISE-D appeared in every episode of STAR TREK: THE NEXT GENERATION, the film STAR TREK GENERATIONS, STAR TREK: DEEP SPACE NINE, STAR TREK: VOYAGER and STAR TREK ENTERPRISE. This means the only series they did not appear in is the original STAR TREK.

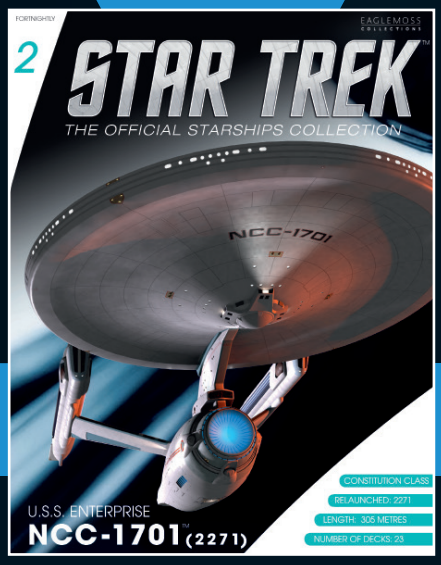
In the first season of TNG, the ship has a variety of senior engineers. This was because the producers felt the engines were unlikely to malfunction. They later decided that the role of Chief Engineer was too useful so they promoted Geordi La Forge.

In the original series ships are often shown travelling at speeds faster than Warp 10. For TNG the warp scale was redrawn so that Warp 10 was the speed of infinity, meaning that a ship travelling at that speed would literally occupy every point in the universe. However, in the fifth TNG episode 'Where No One Has Gone Before' the ship exceeds Warp 10. This was subsequently explained as actually being Warp 9.99999.

COMING IN ISSUE 2

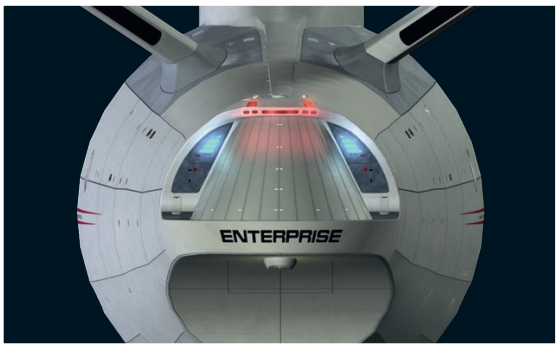
U.S.S. ENTERPRISE NCC-1701 (2271)

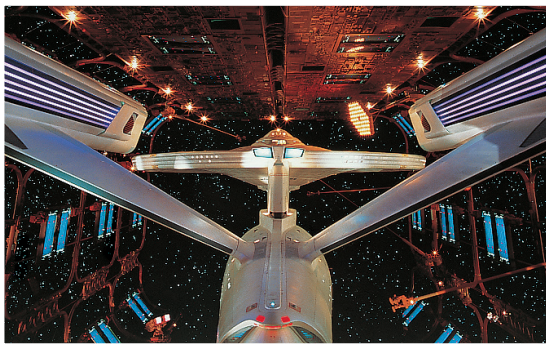
EVERY FORTNIGHT AT YOUR NEWSAGENT



Inside your magazine

- In-depth profile of the *U.S.S. Enterprise* NCC-1701 following its refit at the end of Kirk's first five-year mission
- How the art department updated Matt Jefferies' classic ship design
- Filming the *Starship Enterprise* for the big screen





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